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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,843	02/10/2004	James C. P. McKeon	03-SNX-01	1644

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EXAMINER

KWOK, HELEN C

ART UNIT PAPER NUMBER

2856

DATE MAILED: 05/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/775,843

Applicant(s)

MCKEON, JAMES C. P.

Examiner

Helen C. Kwok

Art Unit

2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. Claim 8 is objected to because of the following informalities. Appropriate correction is required.

In claim 8, line 3, the word "in" should be changed to -- is --.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 28 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 28, line 1, the phrase "the ultrasonic pulse" lacks antecedent basis.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 3-4, 14-15, 29, 34 and 36-37 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,014,711 (Nagasaki).

With regards to claims 1, 3-4, Nagasaki discloses an ultrasonic diagnosis apparatus comprising, as illustrated in Figure 1, an ultrasonic transducer 100; a coupling medium 2 (i.e. water) stored in a reservoir 1 (i.e. a bellow) is coupled to an emitting surface of the transducer and an object 300 under inspection; a first temperature controller operable to maintain the temperature of the coupling medium at a first temperature. (See, column 2, line 56 to column 3, line 12).

With regards to claims 14-15, 29, 34 and 36-37, the claims are commensurate in scope with the above claims and are rejected for the same reasons as set forth above.

6. Claims 1-6, 10-20, 24-27 and 29-37 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 4,252,125 (Iinuma).

With regards to claims 1-6 and 10-13, Iinuma discloses an ultrasonic diagnosing apparatus comprising, as illustrated in Figures 1-4, an ultrasonic transducer 14; a coupling medium 12 (i.e. water) stored in a reservoir 11 (i.e. receptacle) is coupled to an emitting surface of the transducer and an object 13 under inspection; a first temperature controller 25 operable to maintain the temperature of the coupling medium at a first temperature. Furthermore, the temperature controller includes a first heater 24, a temperature sensor, a water circulator; a water level controller to maintain the water at a predetermined level in the reservoir; a transducer position controller to control the position of the transducer (i.e. transducer is being scanned); a water dispenser for

Art Unit: 2856

supplying water to form an acoustic coupling between the transducer and the object.

(See, column 1, line 63 to column 2, line 64).

With regards to claims 14-20, 24-27, 29-37, the claims are commensurate in scope with the above claims and are rejected for the same reasons as set forth above.

7. Claims 1-5, 10, 14-18, 24-27 and 29-37 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 4,058,000 (Ries et al.).

With regards to claims 1-5 and 10, Ries et al. discloses an ultrasonic immersion testing comprising, as illustrated in Figures 2-6, an ultrasonic transducer 8; a coupling medium 2 (i.e. water) stored in a reservoir 30 is coupled to an emitting surface of the transducer and an object under inspection; a first temperature controller 33 operable to maintain the temperature of the coupling medium at a first temperature. Furthermore, the temperature controller includes a first heater 31, a temperature sensor 32; a transducer position controller to control the position of the transducer.

With regards to claims 14-18, 24-27, 29-37, the claims are commensurate in scope with the above claims and are connected for the same reasons as set forth above.

8. Claims 1-6, 10-20, 24-27 and 29-37 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 4,164,150 (Ries et al.).

With regards to claims 1-6 and 10-13, Ries et al. discloses a system for ultrasonic inspections comprising, as illustrated in Figures 1-3, an ultrasonic transducer;

Art Unit: 2856

a coupling medium (i.e. water) stored in a reservoir (i.e. receptacle) is coupled to an emitting surface of the transducer and an object under inspection; a first temperature controller operable to maintain the temperature of the coupling medium at a first temperature. Furthermore, the temperature controller includes a first heater, a temperature sensor, a water circulator; a water level controller to maintain the water at a predetermined level in the reservoir; a transducer position controller to control the position of the transducer (i.e. transducer is being scanned); a water dispenser for supplying water to form an acoustic coupling between the transducer and the object. (See, column

With regards to claims 14-20, 24-27, 29-37, the claims are commensurate in scope with the above claims and are rejected for the same reasons as set forth above.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 7-9, 21-23 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over either U.S. Patent 5,014,711 (Nagasaki) or U.S. Patent 4,252,125 (Iinuma) or U.S. Patent 4,058,000 (Ries et al.) or U.S. Patent 4,164,150 (Ries et al.).

With regards to claims 7-9 and 21-22, although none of the references explicitly disclose a second temperature controller including a temperature sensor to maintain the temperature of the object under inspection at a second temperature, it is obvious to a person of ordinary skill in the art at the time of invention to have readily recognize the advantages and desirability of employing a second temperature controller including a temperature sensor to maintain the temperature of the object under inspection at a second temperature such that the object under inspection has a constant temperature within the entire inspection process so that transmitted ultrasonic waves from the transducer is properly transmitted to the object and the received ultrasonic waves are not distorted from a temperature change within the object under inspection to provide an output result free of interferences and consistency throughout the inspection process.

With regards to claims 23 and 28, the references do not specify the object under inspection is a microelectronic device and the ultrasonic pulse generated by the transducer has a frequency greater than 100 MHz. However, it would have been obvious to an artisan in the art at the time of invention to have readily recognize the advantages and desirability using other objects to be tested (i.e. microelectronic device) and using other test characteristic (i.e. a frequency of 100 MHz or greater) is not necessarily limited to such materials or test characteristic and can be used without departing from the scope of the invention.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to

Art Unit: 2856

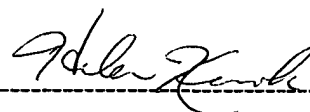
applicant's disclosure.

The references cited are related to ultrasonic inspection having a coupling medium positioned between a transducer and a test object.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen C. Kwok whose telephone number is (571) 272-2197. The examiner can normally be reached on 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Helen C. Kwok
Art Unit 2856

hck
April 28, 2005